METHODS AND APPARATUS FOR CONTROLLING SPECULATIVE EXECUTION OF INSTRUCTIONS BASED ON A MULTIACCESS MEMORY CONDITION

ABSTRACT OF THE DISCLOSURE

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Mechanisms and techniques operate in a computerized device to enable or disable speculative execution of instructions such as reordering of load and store instructions a multiprocessing computerized device. The mechanisms and techniques provide a speculative execution controller that can detect a multiaccess memory condition between

10   the first and second processors, such as concurrent access to shared data pages via page table entries. This can be done by monitoring page table entry accesses by other processors. The speculative execution controller sets a value of a speculation indicator in the memory system based on the multiaccess memory condition. If the value of the speculation indicator indicates that speculative execution of instructions is allowed in the

15   computerized device, the speculative execution controller allows speculative execution of instructions in at least one of the first and second processors in the computerized device. If the value of the speculation indicator indicates that speculative execution of instructions is not allowed in the computerized device, the speculative execution controller does not allow speculative execution of instructions.

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